

No.	Publication No.	Title
1.	<u>2002 - 135075</u>	SURFACE ACOUSTIC WAVE ELEMENT
2.	<u>2002 - 063808</u>	FLUORESCENT LAMP BULB PROTECTING REFLECTOR AND LIGHT SOURCE
3.	<u>08 - 271739(1996)</u>	LIQUID CRYSTAL DISPLAY
4.	<u>08 - 086745(1996)</u>	SPATIAL-COHERENCE TYPE LIGHT WAVE REFLECTION MEASURING DEVICE AND LIGHT-WAVE ECHO TOMOGRAPHIC DEVICE USING SAME
5.	<u>08 - 082714(1996)</u>	SURFACE TYPE ILLUMINATOR
6.	<u>07 - 287225(1995)</u>	PROJECTION TYPE COLOR DISPLAY DEVICE AND ILLUMINATING DEVICE USING IT
7.	<u>07 - 169311(1995)</u>	LIGHT SCATTERING PHOTOCONDUCTIVE LIGHT SOURCE AND LIQUID CRYSTAL DISPLAY
8.	<u>02 - 291593(1990)</u>	DISPLAY DEVICE AND IMAGE FORMING DEVICE EQUIPPED WITH SAME
9.	<u>63 - 133073(1988)</u>	ON-VEHICLE ANTENNA IN ROAD SIDE BEACON SYSTEM
10.	<u>56 - 022933(1981)</u>	ADJUSTING METHOD FOR SENSITIVITY OF PHOTOELECTRIC SMOKE DETECTOR

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No.	Publication No.	Title
1.	<u>2002 - 258270</u>	SUBSTRATE FOR LIQUID CRYSTAL DEVICE, ITS MANUFACTURING METHOD, LIQUID CRYSTAL DEVICE, ITS MANUFACTURING METHOD AND ELECTRONIC EQUIPMENT
2.	<u>2002 - 135075</u>	SURFACE ACOUSTIC WAVE ELEMENT
3.	<u>2002 - 014346</u>	LIQUID CRYSTAL DISPLAY DEVICE PROVIDED WITH ANISOTROPIC LIGHT SCATTERING FILM AND OPTICAL MEMBER USED FOR THE SAME
4.	<u>11 - 326884(1999)</u>	REFLECTIVE LIQUID CRYSTAL DISPLAY
5.	<u>11 - 133399(1999)</u>	REFLECTION TYPE LIQUID CRYSTAL DISPLAY DEVICE AND ITS PRODUCTION
6.	<u>09 - 050031(1997)</u>	LIQUID CRYSTAL DISPLAY DEVICE
7.	<u>07 - 074395(1995)</u>	LIGHT EMITTING DIODE DEVICE AND ITS MANUFACTURING METHOD
8.	<u>06 - 317795(1994)</u>	LIQUID CRYSTAL DISPLAY DEVICE
9.	<u>06 - 312271(1994)</u>	PLASMA ARC GOUGING TORCH
10.	<u>06 - 208142(1994)</u>	LIQUID CRYSTAL LIGHT DEFLECTING ELEMENT
11.	<u>05 - 327026(1993)</u>	INFRARED EMISSION DIODE

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Ref	Items	Index-term
E1	1	CT=US 6104455
E2	1	CT=US 6104458
E3	0	*CT=US 6104460
E4	2	CT=US 6104461
E5	2	CT=US 6104464
E6	1	CT=US 6104465
E7	1	CT=US 6104466
E8	1	CT=US 6104472
E9	1	CT=US 6104474
E10	1	CT=US 6104480
E11	1	CT=US 6104481
E12	1	CT=US 6104485

Enter P or PAGE for more

? e cg= us 6104460

Ref	Items	Index-term
E1	6	CG=US 6104458
E2	3	CG=US 6104459
E3	5	*CG=US 6104460
E4	5	CG=US 6104461
E5	4	CG=US 6104462
E6	3	CG=US 6104463
E7	17	CG=US 6104464
E8	3	CG=US 6104465
E9	5	CG=US 6104466
E10	3	CG=US 6104467
E11	22	CG=US 6104468
E12	11	CG=US 6104469

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S1 5 CG='US 6104460'

Set	Items	Description
S1	5	CG='US 6104460'
S2	21	CT='US 5684551'
S3	17	CG='US 5684551'

? show files

File 342:Derwent Patents Citation Indx 1978-01/200252

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2/3/1

DIALOG(R)File 342:Derwent Patents Citation Indx
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04636670 WPI Acc No: 01-195095/20

Semitransparent liquid crystal display device has transparent electrodes in one glass substrate that is arranged orthogonal to resin projections formed on other substrate -

Patent Assignee: (KYOC) KYOCERA CORP

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 2001013495	A	010119	(BASIC)	
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Derwent Week (Basic): 0120

Priority Data: JP 99186758 (990630)

Applications: JP 99186758 (990630); US 606551 (000629)

Derwent Class: P81; U14

Int Pat Class: G02F-001/1335; G02F-001/1343

Number of Patents: 002

Number of Countries: 002

Number of Cited Patents: 019

Number of Cited Literature References: 000

Number of Citing Patents: 000

2/3/2

DIALOG(R)File 342:Derwent Patents Citation Indx
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04602115 WPI Acc No: 00-138791/13

Reflection type liquid crystal display element for portable information terminals comprises liquid crystal cell between two substrates, light reflecting metal electrode, polarizing film, and optical retardation film -

Patent Assignee: (MATU) MATSUSHITA ELECTRIC IND CO LTD

Author (Inventor): SEKIME T; YAMAGUCHI H; IWAI Y

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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EP 978753	A2	000209	(BASIC)	
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Derwent Week (Basic): 0013

Priority Data: JP 98224632 (980807)

Applications: JP 99205939 (990721); EP 99306044 (990729); US 365883 (990803); KR 9932074 (990805); CN 99111795 (990809)

Designated States

(Regional): AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;

LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: A14; A23; A26; A85; L03; P81; U14

Int Pat Class: G02B-005/30; G02F-001/1333; G02F-001/1335

Number of Patents: 005

Number of Countries: 029

Number of Cited Patents: 029

Number of Cited Literature References: 000

Number of Citing Patents: 000

2/3/3

DIALOG(R)File 342:Derwent Patents Citation Indx
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04484277 WPI Acc No: 99-236390/20

Structure of reflected type liquid crystal display element - includes

polarization film and polymer film, whose axis are inclined at specific angle with respect to datum line

Patent Assignee: (MATU) MATSUSHITA DENKI SANGYO KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 11064818	A	990305	(BASIC)	
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Derwent Week (Basic): 9920

Priority Data: JP 97227960 (970825)

Applications: JP 97227960 (970825); TW 98113458 (980815); US 136773 (980819); CN 98118660 (980824); KR 9834508 (980825)

Derwent Class: P81; U14

Int Pat Class: G02B-005/30; G02F-001/13; G02F-001/133; G02F-001/1335; G02F-001/1347

Number of Patents: 007

Number of Countries: 005

Number of Cited Patents: 031

Number of Cited Literature References: 000

Number of Citing Patents: 001

2/3/4

DIALOG(R)File 342:Derwent Patents Citation Indx

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04443183 WPI Acc No: 99-556139/47

LC layer structure in LCD device used for notebook PC, WP, game apparatus, portable VCR, etc - has different areas with two kinds of orientation in which reflecting and permeability display units are provided

Patent Assignee: (SHAF) SHARP KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 11242226	A	990907	(BASIC)	
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Derwent Week (Basic): 9947

Priority Data: JP 97359036 (971226); JP 98364247 (981222)

Applications: JP 98364247 (981222); US 217931 (981222)

Derwent Class: P81; U14

Int Pat Class: G02F-001/1333; G02F-001/1335; G02F-001/1337

Number of Patents: 002

Number of Countries: 002

Number of Cited Patents: 010

Number of Cited Literature References: 001

Number of Citing Patents: 000

2/3/5

DIALOG(R)File 342:Derwent Patents Citation Indx

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04420162 WPI Acc No: 99-066047/06

Reflected type LCD device for PC, word processor, portable telephone - includes reflecting pixel electrode which is connected with lower drain electrode through contact hole formed on insulating layers

Patent Assignee: (SHAF) SHARP KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 10311982	A	981124	(BASIC)	
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Derwent Week (Basic): 9906

Priority Data: JP 9757236 (970312); JP 97356485 (971225)

Applications: JP 97356485 (971225); US 38987 (980312)

Derwent Class: P81; P85; U12; U14; W01

Int Pat Class: G02B-005/00; G02F-001/1333; G02F-001/1335; G02F-001/1343;
G02F-001/1345; G02F-001/136
Number of Patents: 002
Number of Countries: 002
Number of Cited Patents: 016
Number of Cited Literature References: 000
Number of Citing Patents: 000

2/3/6

DIALOG(R)File 342:Derwent Patents Citation Indx
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04349515 WPI Acc No: 00-418473/36

Liquid crystal display for personal computer, TV, has reflector arranged perpendicular to polarizing plate, to reflect polarized light in specific direction -

Patent Assignee: (MITQ) MITSUBISHI ELECTRIC CORP

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
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JP 2000147484	A	000526 (BASIC)
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Derwent Week (Basic): 0036

Priority Data: JP 98321919 (981112)

Applications: JP 98321919 (981112); US 288514 (990408); KR 9921534 (990610)

Derwent Class: P81; U14

Int Pat Class: G02F-001/1335

Number of Patents: 003

Number of Countries: 003

Number of Cited Patents: 005

Number of Cited Literature References: 003

Number of Citing Patents: 000

2/3/7

DIALOG(R)File 342:Derwent Patents Citation Indx
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04312180 WPI Acc No: 99-270782/23

Reflected type LCD device for electronic computers, PC - has liquid crystal layer with nematic liquid crystal which is interposed between transparent substrate and substrate opposite to transparent substrate

Patent Assignee: (SONY) SONY CORP

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
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JP 11084415	A	990326 (BASIC)
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Derwent Week (Basic): 9923

Priority Data: JP 97239856 (970904)

Applications: JP 97239856 (970904); US 146358 (980903)

Derwent Class: P81; P85; U14

Int Pat Class: G02F-001/1335; G02F-001/136

Number of Patents: 002

Number of Countries: 002

Number of Cited Patents: 007

Number of Cited Literature References: 000

Number of Citing Patents: 000

2/3/8

DIALOG(R)File 342:Derwent Patents Citation Indx

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04253393 WPI Acc No: 98-402588/35

Reflective LCD device for portable information processor - has metallic reflection electrode on top of lower substrate arranged opposing upper substrate, so as to enclose liquid crystal layer having predetermined molecular orientation angle inbetween them

Patent Assignee: (MATU) MATSUSHITA DENKI SANGYO KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 10161110	A	980619	(BASIC)	
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Derwent Week (Basic): 9835

Priority Data: JP 96324944 (961205)

Applications: JP 96324944 (961205); KR 9765454 (971203); US 984260 (971203); US 907197 (010717)

Derwent Class: P81; U14

Int Pat Class: C09K-019/02; G02B-005/30

Number of Patents: 006

Number of Countries: 003

Number of Cited Patents: 023

Number of Cited Literature References: 000

Number of Citing Patents: 002

2/3/9

DIALOG(R)File 342:Derwent Patents Citation Indx

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04167116 WPI Acc No: 99-037208/04

Reflective liquid crystal display device - has scattering film formed by laminating several front scattering films with at least one front scattering film having its scattering angle range asymmetrical to normal direction of film

Patent Assignee: (MATU) MATSUSHITA ELECTRIC IND CO LTD

Author (Inventor): HATANAKA T; OGAWA T; FUJITA S; YAMAGUCHI H

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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EP 886169	A2	981223	(BASIC)	
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Derwent Week (Basic): 9904

Priority Data: JP 97158846 (970616); JP 97265378 (970930)

Applications: JP 97158846 (970616); JP 2001123785 (970616); JP 97265378 (970930); JP 2001125759 (970930); JP 2001125760 (970930); US 93184 (980608); EP 98110572 (980609); KR 9822174 (980613); CN 98114799 (980616)

Designated States

(Regional): AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: P81; U14

Int Pat Class: G02B-005/02; G02B-005/08; G02B-005/30; G02F-001/133; G02F-001/1335

Number of Patents: 012

Number of Countries: 029

Number of Cited Patents: 021

Number of Cited Literature References: 010

Number of Citing Patents: 002

2/3/10

DIALOG(R)File 342:Derwent Patents Citation Indx

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04088097 WPI Acc No: 00-228293/20

Liquid crystal display device for PC, has liquid crystal whose molecules are inclined at predetermined angle with normal line of substrate and set to specific orientation mode -

Patent Assignee: (SHAF) SHARP KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 2000047215	A	000218	(BASIC)	
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Derwent Week (Basic): 0020

Priority Data: JP 97304255 (971106); JP 98181731 (980629); JP 98210145 (980727)

Applications: JP 98210145 (980727); US 186640 (981106)

Derwent Class: P81; T01; U14

Int Pat Class: G02F-001/1337

Number of Patents: 002

Number of Countries: 002

Number of Cited Patents: 013

Number of Cited Literature References: 002

Number of Citing Patents: 001

2/3/11

DIALOG(R)File 342:Derwent Patents Citation Indx

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04073121 WPI Acc No: 98-423348/36

Reflective plate for liquid crystal device - has projection of unsymmetrical cross section between thin metal film and glass substrate for centralizing reflected light in specific direction

Patent Assignee: (SHAF) SHARP KK

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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JP 10177106	A	980630	(BASIC)	
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Derwent Week (Basic): 9836

Priority Data: JP 95322028 (951211); JP 96275150 (961017); JP 96331268 (961211)

Applications: JP 96331268 (961211); KR 9666070 (961211); US 763484 (961211); CN 97122727 (970922); TW 97113844 (970923)

Derwent Class: P81; U14

Int Pat Class: G02B-005/02; G02B-005/08; G02B-005/30; G02F-001/133;

G02F-001/1333; G02F-001/1335

Number of Patents: 006

Number of Countries: 005

Number of Cited Patents: 023

Number of Cited Literature References: 000

Number of Citing Patents: 003

2/3/12

DIALOG(R)File 342:Derwent Patents Citation Indx

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04025290 WPI Acc No: 99-384855/32

Manufacture of a reflector for a reflective-type LCD -

Patent Assignee: (GLDS) LG ELECTRONICS INC

Author (Inventor): MOON J M; KIM Y B; OH Y J

Patent (basic)

Patent No	Kind	Date	Examiner	Field of Search
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US 5917567	A	990629	(BASIC)	349/113; 349/155; 428/323
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Derwent Week (Basic): 9932
Priority Data: KR 9719914 (970522)
Applications: KR 9719914 (970522); US 943417 (970930)
Derwent Class: L03; P73; P81; U14
Int Pat Class: B32B-005/16; G02F-001/1335
Number of Patents: 003
Number of Countries: 002
Number of Cited Patents: 013
Number of Cited Literature References: 000
Number of Citing Patents: 003

2/3/13

DIALOG(R)File 342:Derwent Patents Citation Indx
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03658392 WPI Acc No: 98-490793/42
Twisted nematic colour LCD device - has liquid crystal layer formed between pair of transparent electrodes, to which voltage of different levels is applied
Patent Assignee: (NIDE) NEC CORP
Patent (basic)
Patent No Kind Date Examiner Field of Search
JP 10213794 A 980811 (BASIC)
Derwent Week (Basic): 9842
Priority Data: JP 96108812 (960430); JP 96319465 (961129)
Applications: JP 97108624 (970425); US 840389 (970429); KR 9716776 (970430); US 347237 (990702)
Derwent Class: P81; U14
Int Pat Class: G02F-001/1333; G02F-001/1335; G02F-001/1337; G02F-001/1343; G02F-001/337
Number of Patents: 004
Number of Countries: 003
Number of Cited Patents: 041
Number of Cited Literature References: 001
Number of Citing Patents: 000

2/3/14

DIALOG(R)File 342:Derwent Patents Citation Indx
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03634153 WPI Acc No: 99-170719/15
High contrast LCD device for clock, computer etc., - has lower polarization plate which performs transmission of part of incident light and absorbs remaining part
Patent Assignee: (SHAF) SHARP KK
Patent (basic)
Patent No Kind Date Examiner Field of Search
JP 11024065 A 990129 (BASIC)
Derwent Week (Basic): 9915
Priority Data: JP 97181030 (970707)
Applications: JP 97181030 (970707); US 98970 (980617)
Derwent Class: P81; P85; S04; U14
Int Pat Class: G02B-005/30; G02F-001/1335
Number of Patents: 002
Number of Countries: 002
Number of Cited Patents: 011
Number of Cited Literature References: 000
Number of Citing Patents: 005

2/3/15

DIALOG(R)File 342:Derwent Patents Citation Indx
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03603099 WPI Acc No: 99-123412/11

Reflection type liquid crystal display apparatus - provided with metallic reflecting electrodes.

Patent Assignee: (MATU) MATSUSHITA ELECTRIC IND CO LTD
Author (Inventor): MIZUNO H; FUJITA S; HATANAKA T; OGAWA T
Patent (basic)

Patent No	Kind Date	Examiner Field of Search
EP 896243	A2 990210 (BASIC)	

Derwent Week (Basic): 9911

Priority Data: JP 97208902 (970804)

Applications: EP 98114577 (980803); JP 98219290 (980803); US 127892 (980803); JP 2001127839 (980803); CN 98116234 (980804); KR 9831707 (980804)

Designated States

(Regional): AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: A85; L03; P81; P85; U14

Int Pat Class: G02F-001/1335; G02F-001/1343; G09F-009/30

Number of Patents: 006

Number of Countries: 029

Number of Cited Patents: 025

Number of Cited Literature References: 002

Number of Citing Patents: 003

2/3/16

DIALOG(R)File 342:Derwent Patents Citation Indx
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03603098 WPI Acc No: 99-123411/11

Liquid crystal display device for e.g. watch or mobile phone - has polarised light separator with ratio of reflectivity at two different wavelengths of set value, and retardation film to reduce coloring, and ratio of wavelength dispersion in liquid crystal layer to retardation at set value

Patent Assignee: (SHIH) SEIKO EPSON CORP
Author (Inventor): IIJIMA C
Patent (basic)

Patent No	Kind Date	Examiner Field of Search
EP 896242	A2 990210 (BASIC)	

Derwent Week (Basic): 9911

Priority Data: JP 97224432 (970807)

Applications: JP 97224432 (970807); EP 98306230 (980805); CN 98116249 (980806); KR 9832111 (980807); US 131311 (980807)

Designated States

(Regional): AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: P81; S04; U14; W01

Int Pat Class: G02B-005/26; G02B-005/30; G02F-001/133

Number of Patents: 005

Number of Countries: 029

Number of Cited Patents: 023

Number of Cited Literature References: 001

Number of Citing Patents: 003

2/3/17

DIALOG(R)File 342:Derwent Patents Citation Indx
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03554769 WPI Acc No: 99-132483/11

Liquid crystal display - comprises reflection polarisers disposed on viewed side and other side of liquid crystal cell

Patent Assignee: (CITL) CITIZEN WATCH CO LTD

Author (Inventor): IDE M; AKIYAMA T; SEKIGUCHI K; KIKUCHI M; AKIBA Y;
NAKAGAWA K; TOIDA T

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
WO 9904313	A1 990128 (BASIC)	

Derwent Week (Basic): 9911

Priority Data: JP 97188208 (970714)

Applications: AU 9881305 (980714); CN 98800939 (980714); EP 98931092 (980714); WO 98JP3150 (980714); JP 99506901 (980714); JP 2000393713 (980714); KR 99701158 (990211); US 254642 (990311)

Designated States

(National): AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; GH; GM; HU; ID; IL; IS; JP; KE; KG; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZW

(Regional): AT; BE; CH; CY; DE; DK; EA; ES; FI; FR; GB; GH; GM; GR; IE; IT; KE; LS; LU; MC; MW; NL; OA; PT; SD; SE; SZ; UG; ZW

Derwent Class: P81; P85; U14

Int Pat Class: G02F-001/1335; G04G-009/00

Number of Patents: 008

Number of Countries: 080

Number of Cited Patents: 027

Number of Cited Literature References: 002

Number of Citing Patents: 000

2/3/18

DIALOG(R)File 342:Derwent Patents Citation Indx
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03547597 WPI Acc No: 98-459000/40

Liquid crystal display device - has optical phase difference plates with refractive index in direction inclined at angle to normal being different from that for two orthogonal directions

Patent Assignee: (SHAF) SHARP KK

Author (Inventor): YAMAHARA M; INOUE C; MIZUSIMA S

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
EP 863428	A2 980909 (BASIC)	

Derwent Week (Basic): 9840

Priority Data: JP 9750792 (970305)

Applications: JP 9750792 (970305); US 24856 (980217); EP 98301251 (980219); KR 987063 (980304); CN 98104141 (980305)

Designated States

(Regional): AL; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: P81; U14

Int Pat Class: G02F-001/1335; G02F-001/1337; G02F-001/1347; G02F-001/141

Number of Patents: 005

Number of Countries: 028

Number of Cited Patents: 021

Number of Cited Literature References: 000
Number of Citing Patents: 000

2/3/19

DIALOG(R)File 342:Derwent Patents Citation Indx
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03414272 WPI Acc No: 99-095894/08

Watch - has polarisers on outer sides of substrates to reflect linearly polarised light having plane of vibration perpendicular to axis of transmission

Patent Assignee: (CITL) CITIZEN WATCH CO LTD

Author (Inventor): IDE M; AKIYAMA T; SEKIGUCHI K; KIKUCHI M; AKIBA Y;
NAKAGAWA K; TOIDA T

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
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WO 9900696	A1 990107 (BASIC)	
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Derwent Week (Basic): 9908

Priority Data: JP 97173832 (970630)

Applications: AU 9879356 (980630); BR 986101 (980630); CN 98800900 (980630); EP 98929759 (980630); WO 98JP2931 (980630); JP 99505451 (980630); JP 2000250119 (980630); KR 99701157 (990211); US 242848 (990225)

Designated States

(National): AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; GH; GM; GW; HU; ID; IL; IS; JP; KE; KG; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZW

(Regional): AT; BE; CH; CY; DE; DK; EA; ES; FI; FR; GB; GH; GM; GR; IE; IT; KE; LI; LS; LU; MC; MW; NL; OA; PT; SD; SE; SZ; UG; ZW

Derwent Class: P81; P85; S04; T04; U14; V07

Int Pat Class: G02F-001/13; G02F-001/1335; G02F-001/1335; G04G-009/06;

G04G-009/12

Number of Patents: 009

Number of Countries: 082

Number of Cited Patents: 038

Number of Cited Literature References: 004

Number of Citing Patents: 000

2/3/20

DIALOG(R)File 342:Derwent Patents Citation Indx
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03166548 WPI Acc No: 98-335565/30

Liquid crystal display device - has phase difference plates combined with liquid crystal display element so as to improve viewing angle dependency of display screen

Patent Assignee: (SHAF) SHARP KK

Author (Inventor): MOTOHIRO Y; IICHIRO I

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
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EP 851269	A1 980701 (BASIC)	
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Derwent Week (Basic): 9830

Priority Data: JP 96343736 (961224)

Applications: JP 96343736 (961224); EP 97310505 (971223); KR 9772506 (971223); US 996956 (971223)

Designated States

(Regional): AL; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LT; LU; LV; MC; MK; NL; PT; RO; SE; SI

Derwent Class: P81; U14
Int Pat Class: C09K-019/02; G02B-005/30; G02F-001/13; G02F-001/1335;
G02F-001/1347; G02F-001/139
Number of Patents: 004
Number of Countries: 027
Number of Cited Patents: 027
Number of Cited Literature References: 003
Number of Citing Patents: 001

2/3/21

DIALOG(R) File 342: Derwent Patents Citation Indx
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01091388 WPI Acc No: 94-001429/01

Reflective-type LCD - has optical phase compensating member between input polariser and liquid crystal cell and rear reflective substrate consisting of smooth undulations and counter electrode.

Patent Assignee: (SHAF) SHARP KK

Author (Inventor): NAKAMURO K; MITSUI S; KIMURA N; UCHIDA T; SEKI H

Patent (basic)

Patent No	Kind Date	Examiner Field of Search
EP 576303	A1 931229 (BASIC)	

Derwent Week (Basic): 9401

Priority Data: JP 92169540 (920626); JP 92261310 (920930)

Applications: JP 983886 (920626); DE 621523 (930628); EP 93305026 (930628);
); US 526275 (950911); US 887219 (970702)

Designated States

(Regional): DE; FR; GB; NL

Derwent Class: P81; U14; V07

Int Pat Class: G02B-005/02; G02B-005/08; G02F-001/133; G02F-001/1335

Number of Patents: 006

Number of Countries: 006

Number of Cited Patents: 069

Number of Cited Literature References: 008

Number of Citing Patents: 035

?

Set	Items	Description
S1	521437	LCD? ? OR LIQUID()CRYSTAL?
S2	2893610	LIGHT? ?
S3	28885	REFLECT?() (FILM? OR PLATE?)
S4	343134	ELLIPTICAL? OR TEARDROP? OR TEAR()DROP? OR CONCAVE? OR CON- VEX? OR RECTANGL?()DOME?
S5	11841604	VARY OR VARIES OR VARIED OR ALTER? OR CHANG? OR TRANSFORM? OR MODIF? OR ADJUST?
S6	4136725	DIRECTI? OR SCATTER?
S7	152228	(QUANTI? OR AMOUNT? OR NUMBER? OR MEASUR?) (3N)S2
S8	4416	S2(3N)S3
S9	132	S8 AND S4
S10	28	S1 AND S9
S11	28	RD (unique items)
S12	18	S11 AND PY<=2000
S13	45581	S5 AND S7
S14	9747	S5(3N)S7
S15	14	S14 AND S1 AND S3
S16	14	RD (unique items)
S17	14	S16 NOT S12
S18	0	S1 AND S8 AND S4 AND S5 AND S6 AND S7
S19	1	S1 AND S8 AND S4 AND S5 AND S7
S20	5885	S3 AND S6
S21	1125	S8 AND S6
S22	258	S8(6N)S6
S23	31	S22 AND S1 AND (SEMICONDUCT? OR SEMI()CONDUCT? OR IC OR ICS OR WAFER? OR SUBSTRATE? OR INTERGRATE?()CIRCUIT?)
S24	31	RD (unique items)
S25	21	S24 AND PY<=2000
S26	21	S25 NOT(S12 OR S17 OR S19)
S27	1	S26 AND (S4 OR S7)

? show files

File 2:INSPEC 1969-2003/Feb W3
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File 6:NTIS 1964-2003/Mar W1
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File 8:Ei Compendex(R) 1970-2003/Feb W4
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File 34:SciSearch(R) Cited Ref Sci 1990-2003/Feb W4
(c) 2003 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2003/Feb
(c) 2003 ProQuest Info&Learning

File 65:Inside Conferences 1993-2003/Mar W1
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File 144:Pascal 1973-2003/Feb W3
(c) 2003 INIST/CNRS

File 94:JICST-EPlus 1985-2003/Mar W1
(c)2003 Japan Science and Tech Corp(JST)

File 99:Wilson Appl. Sci & Tech Abs 1983-2003/Jan
(c) 2003 The HW Wilson Co.

File 347:JAPIO Oct 1976-2002/Oct(Updated 030204)
(c) 2003 JPO & JAPIO

File 350:Derwent WPIX 1963-2003/UD,UM &UP=200314
(c) 2003 Thomson Derwent

?

12/9/1 (Item 1 from file: 347)
DIALOG(R) File 347:JAPIO
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06736151 **Image available**
DISPLAY FOR VEHICLE

PUB. NO.: - 2000-321998 [JP 2000321998 A]
PUBLISHED: November 24, 2000 (20001124)
INVENTOR(s): FUNADA YASUSHI
APPLICANT(s): CALSONIC KANSEI CORP
APPL. NO.: 11-131270 [JP 99131270]
FILED: May 12, 1999 (19990512)
INTL CLASS: G09F-009/00; B60K-035/00; B60R-016/02; G02F-001/13

ABSTRACT

PROBLEM TO BE SOLVED: To make it possible to make the depth space and spread behind an information display visible large by interposing a Fresnel lens between the rear surface of a positive type liquid crystal display and a reflection surface of a light reflection surface.

SOLUTION: The light diffusion reflection plate 24 of a dome shape is arranged in the central part of a case 27 and the positive type liquid crystal display 22 is arranged in the front part of this light diffusion reflection plate 24. At the time of this arrangement, for example, the Fresnel lens 28 having a convex lens effect is superposed on the rear surface of the positive type liquid crystal display 22 and is fixed to the light diffusion reflection plate 24 by a mounting frame 29 (a). The Fresnel lens 28 formed by templating this Fresnel lens 28 in such a manner that the spiral center thereof exists in an area exclusive of a visual recognition area (b). The depth in the longitudinal direction of the dome-shaped space 23 is, thereupon, stressed so as to deepen and the feel that the wall surface of the dome spreads divergently toward the deeper part may be given to a viewing person.

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12/9/2 (Item 2 from file: 347)
DIALOG(R) File 347:JAPIO
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05756184 **Image available**
LIQUID CRYSTAL DISPLAY ELEMENT

PUB. NO.: 10-039284 [JP 10039284 A]
PUBLISHED: February 13, 1998 (19980213)
INVENTOR(s): OKUMURA OSAMU
APPLICANT(s): SEIKO EPSON CORP [000236] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-106256 [JP 97106256]
FILED: April 23, 1997 (19970423)
INTL CLASS: [6] G02F-001/1333; G02F-001/133; G02F-001/1335
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)
JAPIO KEYWORD: R011 (LIQUID CRYSTALS); R139 (INFORMATION PROCESSING -- Word Processors)

ABSTRACT

PROBLEM TO BE SOLVED: To make a liquid crystal display element bright, line in coloration, and prevented in double display, by using such liquid

crystals that the light, which is made incident on a liquid crystal cell and arrives at a reflection plate, is in the state of nearly linearly polarized light.

SOLUTION: The light entering from leftward is made into the linearly polarized light by a polarizing plate 2. Next, the light generally changes into an elliptically polarized light while phase difference is induced by the double refractiveness of liquid crystal molecules 16. If the light is already the linearly polarized light at the time of arriving at the reflection plate 4, the light returns to the original linearly polarized light by tracing exactly the same polarized light change as the forward path in the backward path where the light is reflected and advances leftward. The linearly polarized light can pass the polarizing plate 2 without the loss of the light quantity at all. The twist angle of the liquid crystals is 0 to 70 deg., the $\Delta n \cdot d$ value is 0.2 to 0.7 μm and the angle θ is 35 to 115 deg.. More preferably, the twist is 30 to 70 deg., the $\Delta n \cdot d$ value is 0.25 to 0.64 μm and the angle θ is 58 to 111 deg..

12/9/3 (Item 3 from file: 347)
DIALOG(R) File 347:JAPIO
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05428800 **Image available**
LIQUID CRYSTAL DISPLAY ELEMENT

PUB. NO.: 09-043600 [JP 9043600 A]
PUBLISHED: February 14, 1997 (19970214)
INVENTOR(s): TAKIGUCHI YASUYUKI
KANEMOTO AKIHIKO
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 07-190691 [JP 95190691]
FILED: July 26, 1995 (19950726)
INTL CLASS: [6] G02F-001/1335
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)
JAPIO KEYWORD: R011 (LIQUID CRYSTALS); R119 (CHEMISTRY -- Heat Resistant Resins); R125 (CHEMISTRY -- Polycarbonate Resins)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a reflection type liquid crystal display element with which bright and multicolor display is possible and achromatic colors are obtainable.

SOLUTION: A liquid crystal cell 2 and a double refractive layer 3 having a uniaxial double refractive layer are installed between a polarizing plate and a reflection plate 4. A liquid crystal layer 5 is liquid crystals of positive dielectric anisotropy twisted in the orientation of liquid crystal molecules at an angle of approximately 45 to 135 deg. in a thickness direction by the impressing state of voltage. The orientation direction of the polarizing plate 1 with an upper substrate 4a has the orientation direction (5L) which is parallel (5L) with the transmission axis 1T of the polarizing plate 1 and approximately equal to the lagging axis 3s of the double refractive layer 3 with respect to the lower substrate 4b of the double refractive layer 3. The polarized light transmitted through the polarizing plate 1 is reflected by the reflection plate 7 and returns as it is as the achromatic color in the case shown in Figure where the voltage is not impressed on the liquid crystal cell 2. The polarized light is converted to elliptically polarized light by the double refractive layer 3 and the reflected light reflected by the

reflection plate 7 is emitted as the colored light having the color tone by the retardation of the double refractive layer 3 when the voltage is impressed.

12/9/9 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013642521

WPI Acc No: 2001-126729/ 200114

XRPX Acc No: N01-093475

Reflector for back lights of liquid crystal panel, has concave shaped opaque base material molded with reflex layer and film integrally molded over base material

Patent Assignee: OIKE KOGYO KK (OIKE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000221311	A	20000811	JP 9926964	A	19990204	200114 B

Priority Applications (No Type Date): JP 9926964 A 19990204

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000221311	A	4	G02B-005/08	

Abstract (Basic): JP 2000221311 A

NOVELTY - The reflector has a concave shaped opaque base material integrally molded with metal thin film laminate, having a reflex layer.

USE - Used for fluorescent lamp reflecting plate for back lights of liquid crystal panel used for word processor, notebook personal computer, etc.

ADVANTAGE - As the laminate is formed integrally, usage of adhesive is eliminated, providing uniform and beautiful finish at reduced cost.
pp; 4 DwgNo 0/0

Title Terms: REFLECT; BACK; LIGHT; LIQUID; CRYSTAL; PANEL; CONCAVE ; SHAPE ; OPAQUE; BASE; MATERIAL; REFLEX; LAYER; FILM; INTEGRAL; BASE; MATERIAL

Derwent Class: P73; P81

International Patent Class (Main): G02B-005/08

International Patent Class (Additional): B32B-015/08

File Segment: EngPI

12/9/10 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011889301 . **Image available**

WPI Acc No: 1998-306211/ 199827

XRAM Acc No: C98-094851

XRPX Acc No: N98-240544

Paint for forming transparent electric conducting film, etc. - comprises e.g. colloidal metallic fine particles, dispersion stabiliser absorbed on the surface of the colloidal metallic particles, coagulation inducer, etc.

Patent Assignee: SUMITOMO CEMENT CO LTD (SUMD)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10110123	A	19980428	JP 96267538	A	19961008	199827 B

Priority Applications (No Type Date): JP 96267538 A 19961008

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 10110123 A 13 C09D-005/24

Abstract (Basic): JP 10110123 A

A paint for forming transparent electric conductive film comprises at least a colloidal metallic fine particles, a dispersion stabilizer absorbed on the surface of the colloidal metallic particles, a coagulation inducer for coagulating the colloidal metallic fine particles on drying the paint, and water. Also claimed are : (a) the paint comprises at least one of water soluble solvents of alcohols or cellosolves having higher boiling temp. than that of water; (b) the dispersion stabilizer is carboxylic acid, sulphonic acid, a water soluble polymer of polyvinylalcohol, polyvinylpyrrolidone, polyethylene glycol; (c) the coagulation inducer is at least one of alkali metal ion, ammonium ion; (d) the colloidal metallic particles have an av. dia. of up to 0.1 micron and contain at least fine particles having a primary particle dia. of up to 0.005 micron; (e) the colloidal metallic particle is made of at least one of Au, Ag, Cu, Al, Ni, Fe, Sn, In and Pb; (f) a method for forming a transparent electric conductive film comprises introducing the dispersion stabilizer and a reducing agent into a soln. dissolving a metallic salt or a dispersion dispersing a metallic salt to form a dispersion of colloidal metallic particle on the surface of which the dispersion stabilizer is absorbed and to coexist the coagulating inducer in the dispersion; (g) the reducing agent is at least one of bivalent iron salt, bivalent tin salt, trivalent cerium salt, trivalent titanium salt; (h) a transparent electric conductive and low light reflective film is a fused and continuous metallic film and comprises transparent electric conductive film having a sectional shape of concave - convex form and a low light reflective transparent film coated thereon; (i) the method for forming a transparent electric conductive and low light reflective film comprises applying the paint, drying to form a coagulated layer of metallic fine particles, applying the paint for the low light reflective transparent film thereon, heating at a given temp. to fuse the metallic particles and to cure the paint and (j) a display apparatus comprises the transparent electric conductive and low light reflective film on the surface of a transparent substrate.

USE - The paint is suitably applied to cathode ray tube, liquid crystal display, car window, etc.

ADVANTAGE - The film made of the paint has a high electrostaticity, transparency, electromagnetic shielding effect.

Dwg.1/5

Title Terms: PAINT; FORMING; TRANSPARENT; ELECTRIC; CONDUCTING; FILM; COMPRISE; COLLOID; METALLIC; FINE; PARTICLE; DISPERSE; STABILISED; ABSORB ; SURFACE; COLLOID; METALLIC; PARTICLE; COAGULATE; INDUCE

Derwent Class: A85; G02; L03; P73; V04; X12

International Patent Class (Main): C09D-005/24

International Patent Class (Additional): B32B-007/02; B32B-009/00; C09C-001/62; C09C-003/08; C09C-003/10; C09D-005/00; C09D-005/38; C09D-007/12; H05K-009/00

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): A12-E01; A12-W12C; G02-A05B; L03-A01A3

Manual Codes (EPI/S-X): V04-U01; X12-D01X

Polymer Indexing (PS):

<01>

001 018; P1707 P1694 D01; L9999 L2391; L9999 L2073; M9999 M2073

002 018; G0635 G0022 D01 D12 D10 D23 D22 D31 D41 D51 D53 D58 D75 D86 F71; H0000; H0011-R; L9999 L2391; L9999 L2073; M9999 M2073

003 018; R00351 G1558 D01 D23 D22 D31 D42 D50 D73 D82 F47; H0000; P8004
P0975 P0964 D01 D10 D11 D50 D82 F34; P0055; L9999 L2391; L9999
L2073; M9999 M2073

004 018; ND01; Q9999 Q7158-R Q7114; Q9999 Q7330-R; B9999 B3269 B3190;
B9999 B4397 B4240; K9847-R K9790; Q9999 Q9110; B9999 B3292-R B3190;
B9999 B3281 B3190; B9999 B4400-R B4240; Q9999 Q7512; Q9999 Q8322
Q8264; Q9999 Q9234 Q9212; Q9999 Q9289 Q9212; Q9999 Q7658; B9999
B3521-R B3510 B3372; N9999 N6780-R N6655; K9483-R; K9574 K9483;
K9712 K9676; K9676-R; N9999 N7147 N7034 N7023; N9999 N7090 N7034
N7023; B9999 B5447 B5414 B5403 B5276

005 018; 1A-R F16; A999 A613 A566; A999 A771

006 018; Gm Cu 1B Tr Ag Au Ni 8B Fe Pb 4A Sn In 3A; A999 A135; S9999
S1456-R; B9999 B5209 B5185 B4740

007 018; D01 F26-R; A999 A475; A999 A771; B9999 B3521-R B3510 B3372

12/9/11 (Item 3 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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011030481 **Image available**
WPI Acc No: 1997-008405/ 199701
XRAM Acc No: C97-002188
XRPX Acc No: N97-007616

Planar light source device for LCD back light, etc - comprises sheet
having concave - convex lens group, reflection film and linear
light source

Patent Assignee: DAINIPPON PRINTING CO LTD (NIPQ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8278413	A	19961022	JP 95101578	A	19950404	199701 B

Priority Applications (No Type Date): JP 95101578 A 19950404

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 8278413	A		5 G02B-006/00	

Abstract (Basic): JP 8278413 A

Device comprises sheet having lens group consisting of concave
portions or convex ones on one face and an optical conductive member
and a reflection film and linear light source.

USE - It is used as backlight of liq. crystal display, etc.

ADVANTAGE - Lightweight and compact device having high luminance
and uniform brightness can be obtd.

Dwg.1/7

Title Terms: PLANE; LIGHT; SOURCE; DEVICE; LCD ; BACK; LIGHT; COMPRISE;
SHEET; CONCAVE ; CONVEX ; LENS; GROUP; REFLECT; FILM; LINEAR; LIGHT;
SOURCE

Derwent Class: L03; P81; Q71; U14; V07; W05; X26

International Patent Class (Main): G02B-006/00

International Patent Class (Additional): F21V-008/00; G02B-001/04;

G02B-005/02; G02F-001/1335

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): L03-G02; L03-G05B

Manual Codes (EPI/S-X): U14-K01A4; V07-F01A; W05-E05B; X26-D01

?

19/9/1 (Item 1 from file: 347)
DIALOG(R) File 347:JAPIO
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05756184 **Image available**
LIQUID CRYSTAL DISPLAY ELEMENT

PUB. NO.: 10-039284 [JP 10039284 A]
PUBLISHED: February 13, 1998 (19980213)
INVENTOR(s): OKUMURA OSAMU
APPLICANT(s): SEIKO EPSON CORP [000236] (A Japanese Company or Corporation)
, JP (Japan)
APPL. NO.: 09-106256 [JP 97106256]
FILED: April 23, 1997 (19970423)
INTL CLASS: [6] G02F-001/1333; G02F-001/133; G02F-001/1335
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)
JAPIO KEYWORD: R011 (**LIQUID CRYSTALS**); R139 (INFORMATION PROCESSING --
Word Processors

ABSTRACT

PROBLEM TO BE SOLVED: To make a **liquid crystal** display element bright, linle in coloration, and prevented in double display, by using such **liquid crystals** that the light, which is made incident on a **liquid crystal** cell and arrives at a reflection plate, is in the state of nearly linearly polarized light.

SOLUTION: The light entering from leftward is made into the linearly polarized light by a polarizing plate 2. Next, the light generally **changes** into an **elliptically** polarized light while phase difference is induced by the double refractiveness of **liquid crystal** molecules 16. If the light is already the linearly polarized light at the time of arriving at the **reflection plate** 4, the light returns to the original linearly polarized light by tracing exactly the same polarized light **change** as the forward path in the backward path where the light is reflected and advances leftward. The linearly polarized light can pass the polarizing plate 2 without the loss of the **light quantity** at all. The twist angle of the **liquid crystals** is 0 to 70 deg., the .delta.nxd value is 0.2 to 0.7.mu.m and the angle .theta.is 35 to 115 deg.. More preferably, the twist is 30 to 70 deg., the .delta.nxd value is 0.25 to 0.64.mu.m and the angle .theta. is 58 to 111 deg..

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17/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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05419119 **Image available**
LIQUID CRYSTAL DISPLAY DEVICE

PUB. NO.: 09-033919 [JP 9033919 A]
PUBLISHED: February 07, 1997 (19970207)
INVENTOR(s): HIRAKATA JUNICHI
KOMURA SHINICHI
HIYAMA IKUO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 07-184142 [JP 95184142]
FILED: July 20, 1995 (19950720)
INTL CLASS: [6] G02F-001/1335; G02F-001/1333; G02F-001/137
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)
JAPIO KEYWORD: R011 (LIQUID CRYSTALS); R119 (CHEMISTRY -- Heat Resistant
Resins); R125 (CHEMISTRY -- Polycarbonate Resins)

ABSTRACT

PROBLEM TO BE SOLVED: To provide the reflection type liquid crystal display device which has a high contrast and can make a paper-white or color display.

SOLUTION: The liquid crystal display device is equipped with a couple of substrates 1 and 8 which are arranged opposite each other so that one of them is transparent and has electrodes, a liquid crystal layer 5 which is sandwiched between the substrates 1 and 8, a liquid crystal panel constituted by sandwiching spacers giving a constant gap between the substrates 1 and 8, a reflecting plate 10 which varies the quantity of reflected light of light passed through the liquid crystal layer, a control means which varies the quantity of transmitted light in the liquid crystal layer by applying a voltage between the electrodes, and a driving means which generates a voltage waveform for varying the quantity of transmitted light of the liquid crystal layer. Then a medium 9 which totally reflects light made incident on the substrate surface slantingly to the vertical direction and is different in refractive index from the liquid crystal layer is arranged between the liquid crystal layer 5 and reflecting plate 10.

17/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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05127297 **Image available**
DISPLAY DEVICE WITH BACK LIGHT

PUB. NO.: 08-082797 [JP 8082797 A]
PUBLISHED: March 26, 1996 (19960326)
INVENTOR(s): HASHIZUME KYOICHI
APPLICANT(s): CASIO COMPUT CO LTD [350750] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-240900 [JP 94240900]
FILED: September 09, 1994 (19940909)
INTL CLASS: [6] G02F-001/1335; F21V-008/00; G02B-005/02; G09F-013/04
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment); 30.9 (MISCELLANEOUS GOODS -- Other); 43.4 (ELECTRIC POWER --

Applications)
JAPIO KEYWORD:R011 (**LIQUID CRYSTALS**)

ABSTRACT

PURPOSE: To thin it without causing luminance unevenness.

CONSTITUTION: A back light 12 of this **liquid crystal** display device is constituted of a light diffusing plate 18 arranged on a rear surface of a **liquid crystal** display panel 11, fluorescent tubes 16, 17 light irradiating from the rear surface of the light diffusing plate 18, light shielding parts 14, 15 **adjusting** a **light quantity** with which the direct light of the fluorescent tubes 16, 17 irradiate the light diffusing plate 18 and a **reflection plate** 13 reflecting the light of the fluorescent tubes 16, 17. In such a case, since the light quantity irradiating the light diffusing plate 18 is adjusted by gradually reducing a distance between the **reflection plate** 13 and the light diffusing plate 18 according to approach from the peripheral part of the light diffusing plate 18 to the central part, luminance peak due to the fluorescent tubes 16, 17 is made not to appear even when the fluorescent tubes 16, 17 are approached to the light diffusing plate 18, and the occurrence of the luminance unevenness is prevented. Thus, the device is thinned without causing the luminance unevenness.

17/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
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04458607 **Image available**
LIQUID CRYSTAL DISPLAY DEVICE

PUB. NO.: 06-102507 [JP 6102507 A]
PUBLISHED: April 15, 1994 (19940415)
INVENTOR(s): SHIRAISHI YOSHINOBU
TOMITA NORIZOU
YONEKURA KATSUMI
HAMADA MASAO
OKAWA MAKOTO
TAKIGAWA TAKASHI
MAEZAWA KENICHI
APPLICANT(s): MITSUBISHI RAYON CO LTD [000603] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-254861 [JP 92254861]
FILED: September 24, 1992 (19920924)
INTL CLASS: [5] G02F-001/1335; G02B-005/02; G02B-006/00
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment); 14.2 (ORGANIC CHEMISTRY -- High Polymer Molecular Compounds)
JAPIO KEYWORD:R011 (**LIQUID CRYSTALS**); R044 (CHEMISTRY -- Photosensitive Resins); R119 (CHEMISTRY -- Heat Resistant Resins); R125 (CHEMISTRY -- Polycarbonate Resins)
JOURNAL: Section: P, Section No. 1769, Vol. 18, No. 373, Pg. 117, July 13, 1994 (19940713)

ABSTRACT

PURPOSE: To project light from a back irradiating means concentrically toward a **liquid crystal** display element so as to improve luminance by installing a multi-prism sheet whose apex angles are within a specific range on the back irradiating means so that the prism surface faces the **liquid crystal** display element.

CONSTITUTION: The multi-prism sheet 1 is installed on the back irradiating means 3 with its prism surface up. On the multi-prism sheet 1, the liquid crystal display element 2 is arranged opposite the prism surface. The back irradiating means 3 has a light guide plate 5 having a projection surface where a light quantity adjusting pattern 4 is formed and a reflecting surface where a reflecting film 6 is formed. Incident light from a linear light source 7 such as a fluorescent lamp passes through the light guide 5 and is partially projected from the reflecting surface to uniformly irradiates the reverse surface of the liquid crystal display element 2 through the multi-prism sheet 1. The vertical angle of the prism is set to 70-110 deg. and then the convergence of the light is improved to improve the luminance.

17/9/7 (Item 7 from file: 347)
DIALOG(R) File 347:JAPIO
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02960336 **Image available**
PROJECTING DEVICE

PUB. NO.: 01-257936 [JP 1257936 A]
PUBLISHED: October 16, 1989 (19891016)
INVENTOR(s): TAMAKI TETSUYA
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
(Japan)
TOSHIBA ELECTRON DEVICE ENG CORP [486766] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 63-085449 [JP 8885449]
FILED: April 08, 1988 (19880408)
INTL CLASS: [4] G03B-021/132; G09F-009/00
JAPIO CLASS: 29.1 (PRECISION INSTRUMENTS -- Photography & Cinematography);
44.9 (COMMUNICATION -- Other)
JAPIO KEYWORD: R011 (LIQUID CRYSTALS)
JOURNAL: Section: P, Section No. 987, Vol. 14, No. 8, Pg. 40, January
10, 1990 (19900110)

ABSTRACT

PURPOSE: To obtain a projection screen where the unevenness of display is removed and which is easy to be viewed by providing a light quantity adjusting means where light transmissivity is higher on a peripheral part than on a center part between a light source and a liquid crystal display unit.

CONSTITUTION: A light absorbing plate or a light reflecting plate functioning as the light quantity adjusting means 20 where the light transmissivity is higher on the peripheral part than on the center part in order to make light outgoing from a Fresnel lens 3 uniform, for example, a polyester film on which aluminum is deposited to that reflected light flux becomes smaller on a part far from a center, is set between the light source 2 and the liquid crystal display unit 12. Since the excessive light near the center, where light quantity is large, including infrared rays can be eliminated in the light from the light source 2 with the operation of the light quantity adjusting means 20, the light made incident on the liquid crystal display unit 12 through the Fresnel lens 3 becomes uniform. Thus, the rising of temperature of the liquid crystal display unit 12 caused by the incident light becomes uniform and the unevenness of display caused by the difference of temperature can be removed.

17/9/9 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
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02908770 **Image available**
ELECTROPHOTOGRAPHIC PRINTER

PUB. NO.: 01-206370 [JP 1206370 A]
PUBLISHED: August 18, 1989 (19890818)
INVENTOR(s): OTSUKA KEITA
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-030036 [JP 8830036]
FILED: February 13, 1988 (19880213)
INTL CLASS: [4] G03G-015/04
JAPIO CLASS: 29.4 (PRECISION INSTRUMENTS -- Business Machines)
JAPIO KEYWORD: R002 (LASERS); R011 (LIQUID CRYSTALS0)
JOURNAL: Section: P, Section No. 960, Vol. 13, No. 508, Pg. 152,
November 15, 1989 (19891115)

ABSTRACT

PURPOSE: To reduce the cost of the title printer by disposing a display unit set so that the optical path length is contained in the depth of focus of an optical system, and also, providing a driving means for driving electrically each display element by an arbitrary pattern so that its reflected light quantity is varied .

CONSTITUTION: When a display element is driven in advance by a pattern corresponding to a recording image by a driving means and a light beam from a light source is made incident on a transparent plate, the reflected light quantity is different in the driven display element from the display element which is not driven. For instance, when a liquid crystal display unit 33 using a liquid crystal element as a display element is used as a display unit, in a driven liquid crystal element 38(sub 1), an optical path is obstructed due to the difference of a polarized light and what is called a black signal state is formed, and an incident light L(sub 1) does not reach a back reflecting plate 37. On the other hand, in a liquid crystal element 38(sub 2) which is not driven, the optical path is not obstructed at all and what is called a white signal is formed, and an incident light L(sub 2) reaches the back reflecting plate 37, reflected L'(sub 2) thereby and led to an optical system and an exposure to a photosensitive body is executed. In such a way, it can be realized to reduce the cost.

17/9/13 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012856477 **Image available**
WPI Acc No: 2000-028310/200003
XRPX Acc No: N00-021334

Light scattering type liquid crystal element in display device used for portable apparatus - is provided between point light source and display element, and transmittance of which is altered for adjusting quantity of light from source

Patent Assignee: SEIKO INSTR INC (DASE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11295704	A	19991029	JP 9897767	A	19980409	200003 B

Priority Applications (No Type Date): JP 9897767 A 19980409

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 11295704	A	4	G02F-001/1333	

Abstract (Basic): JP 11295704 A

NOVELTY - The **liquid crystal** element (2) of light scattering type is provided between a point light source (3) and a display element (1). The quantity of light from the light source can be adjusted by altering the transmittance of the **liquid crystal** element, based on the voltage applied to the element.

USE - In display device for portable machine.

ADVANTAGE - Optimum display visibility is obtained by **changing** the **quantity of light** from **light** source by **altering** the electric field applied on the **liquid crystal** element. Light-scattering type **liquid crystal** element can be used as an **reflecting plate**, thereby reducing the loss of light from the light source and increasing the utilization efficiency. DESCRIPTION OF

DRAWING(S) - The diagram shows the cross-sectional model of the display element. (1) Display element; (2) **Liquid crystal** element; (3) Light source.

Dwg.1/6

Title Terms: LIGHT; SCATTERING; TYPE; LIQUID; CRYSTAL; ELEMENT; DISPLAY; DEVICE; PORTABLE; APPARATUS; POINT; LIGHT; SOURCE; DISPLAY; ELEMENT; TRANSMITTANCE; ALTER; ADJUST; QUANTITY; LIGHT; SOURCE

Derwent Class: P81; P85; U14

International Patent Class (Main): G02F-001/1333

International Patent Class (Additional): G02F-001/133; G09F-009/00

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): U14-K01A1; U14-K01A3; U14-K01A4C

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27/9/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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06249225 **Image available**
REFLECTION PLATE, REFLECTION TYPE POLARIZING PLATE AND REFLECTION TYPE
LIQUID CRYSTAL DISPLAY DEVICE

PUB. NO.: 11-190802 [JP 11190802 A]
PUBLISHED: July 13, 1999 (19990713)
INVENTOR(s): HAYASHI SHIGETOSHI
KURATA NOBUYUKI
APPLICANT(s): SUMITOMO CHEM CO LTD
APPL. NO.: 09-357888 [JP 97357888]
FILED: December 25, 1997 (19971225)
INTL CLASS: G02B-005/08; B29D-011/00; B32B-007/02; G02B-005/30;
G02F-001/1335

ABSTRACT

PROBLEM TO BE SOLVED: To obtain the display having a bright and good visibility even when the display is viewed from the angle, in which the reflection of external light beams is avoided, by using the reflection plate having a specific reflection light quantity distribution characteristic.

SOLUTION: The reflection light plate has a different reflection light quantity distribution characteristic compared with the characteristic of a conventional reflection plate. If the incident angle of the light beams to the reflection plate substrate with respect to a normal direction is $-\theta$ degrees (where $0 \text{ degree} < \theta < 90 \text{ degrees}$), a positive reflection angle becomes $+\theta$ degrees. If θ' degrees (where $0 \text{ degree} < \theta' < 90 \text{ degrees}$) is the reflection angle and the reflection light quantity becomes a maximum while the degree of the angular dependency of the reflection light quantity is measured, the condition, in which more than four maximum values are obtained in the range of $\theta - \theta' \leq 5 \text{ degrees}$, is satisfied. If the number of the maximum values of the reflection light quantity is less than three, the angle of the visual field, in which a bright and good visibility display is obtained, becomes narrower at the angle where the reflection of external light beams is being avoided. As an example, the surface section of the reflection plate is formed by arranging polygonal pillars adjacent to each other in their ridgeline direction and the cross section has a sawtooth shape in which polygons are connected together.

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26/9/16 (Item 4 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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012413158 **Image available**
WPI Acc No: 1999-219266/ 199919
XRPX Acc No: N99-162104

Light scattering LCD device - has illumination unit to illuminate side
of LCD panel from front face side of color separation filter
Patent Assignee: SEIKO INSTR INC (DASE); SEIKO PRECISION KK (SEIK-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 11052888 A 19990226 JP 97211027 A 19970805 199919 B

Priority Applications (No Type Date): JP 97211027 A 19970805
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 11052888 A 7 G09F-009/35

Abstract (Basic): JP 11052888 A

NOVELTY - A color separation filter (9) and a scattering reflex
layer (12) are formed on either side of a lower substrate (10). The
filter is positioned behind an LC layer (13) of LCD panel. An
illumination unit (14) illuminates the side face of the display panel
from the front face side of the filter. DETAILED DESCRIPTION - The
display panel consists of the LC layer arranged between a pair of
electrode boards (7,8) which are arranged between an upper substrate
(5) and a lower substrate (10). The scattering reflex layer is
provided on the back side of the filter which reflects light of
specific wavelength and transmits remaining light of illumination
device.

USE - None given.

ADVANTAGE - Guides incident light reliably to scattering
reflecting plate from one end face of upper substrate . Prevents
contrast reduction between transparent and scattering portion of
liquid crystal . Performs bright high display of contrast. Reduces
electric power. DESCRIPTION OF DRAWING(S) - The figure shows the
sectional drawing of LCD device. (5) Upper substrate ; (7,8)
Electrode boards; (9) Color separation filter; (10) Lower substrate ;
(12) Scattering reflex layer; (13) LC layer; (14) Illumination device.

Dwg.1/6

Title Terms: LIGHT; SCATTERING; LCD ; DEVICE; ILLUMINATE; UNIT; ILLUMINATE
; SIDE; LCD ; PANEL; FRONT; FACE; SIDE; SEPARATE; FILTER
Derwent Class: P85; U14
International Patent Class (Main): G09F-009/35
International Patent Class (Additional): G09F-009/00
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): U14-K01A1C; U14-K01A4C

26/9/19 (Item 7 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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010539728 **Image available**
WPI Acc No: 1996-036682/ 199604
XRPX Acc No: N96-030981

Liquid crystal display device - has polarising plate on surface side

of liquid crystal cell, picture element on inner surface of substrate on back side of LC cell forming light reflection film, surface of polarising plate forms light scattering surface NOAbstract
Patent Assignee: CASIO COMPUTER CO LTD (CASK)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 7306408 A 19951121 JP 9497484 A 19940511 199604 B

Priority Applications (No Type Date): JP 9497484 A 19940511

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 7306408 A 11 G02F-001/1335

Title Terms: LIQUID; CRYSTAL; DISPLAY; DEVICE; POLARISE; PLATE; SURFACE;
SIDE; LIQUID; CRYSTAL; CELL; PICTURE; ELEMENT; INNER; SURFACE; **SUBSTRATE**
; BACK; SIDE; LC; CELL; FORMING; LIGHT; REFLECT; FILM; SURFACE; POLARISE;
PLATE; FORM; LIGHT; SCATTERING; SURFACE; NOABSTRACT

Derwent Class: P81; U14

International Patent Class (Main): G02F-001/1335

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): U14-K01A1C

26/9/20 (Item 8 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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010539727 **Image available**

WPI Acc No: 1996-036681/ 199604

XRPX Acc No: N96-030980

Liquid - crystal display capable of displaying bright images - has polarising plate attached to front surface of liquid - crystal panel, which is finished so that light is scattered, with light - reflecting film being formed on inside surface of rear substrate of LC panel

NoAbstract

Patent Assignee: CASIO COMPUTER CO LTD (CASK)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No Kind Date Applicat No Kind Date Week
JP 7306407 A 19951121 JP 9497483 A 19940511 199604 B

Priority Applications (No Type Date): JP 9497483 A 19940511

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 7306407 A 10 G02F-001/1335

Title Terms: LIQUID; CRYSTAL; DISPLAY; CAPABLE; DISPLAY; BRIGHT; IMAGE;
POLARISE; PLATE; ATTACH; FRONT; SURFACE; LIQUID; CRYSTAL; PANEL; FINISH;
SO; LIGHT; SCATTERING; LIGHT; REFLECT; FILM; FORMING; SURFACE; REAR;
SUBSTRATE ; LC; PANEL; NOABSTRACT

Derwent Class: P81; U14

International Patent Class (Main): G02F-001/1335

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): U14-K01A1C

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Set Items Description

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 >>>End of index reached
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Ref	Items	Index-term
E1	1	CT=JP 11295558
E2	1	CT=JP 1129569
E3	0	*CT=JP 11295704
E4	1	CT=JP 1129571
E5	1	CT=JP 11295717
E6	1	CT=JP 11295727
E7	1	CT=JP 1129575
E8	1	CT=JP 1129579
E9	1	CT=JP 11295856
E10	1	CT=JP 11295876
E11	2	CT=JP 1129589
E12	1	CT=JP 11295895

Enter P or PAGE for more

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Ref	Items	Index-term
E1	1	CG=IE 65218
E2	1	CG=IE00065218
E3	0	*CG=JP 11295704
E4	1	CG=JP 2500002
E5	1	CG=JP 2500004
E6	3	CG=JP 2500008
E7	1	CG=JP 2500010
E8	1	CG=JP 2500011
E9	3	CG=JP 2500019
E10	3	CG=JP 2500020
E11	1	CG=JP 2500030
E12	1	CG=JP 2500031

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